

MTH211A

Vijay Chirag and Charitha

2023-01-31

MTH211A__Assignment

2.(a) Collect a secondary data from any of the following archives: UCI, Kaggle. Describe the underlying problem of interest.

We have collected **Job Placement Dataset** from kaggle.

OBJECTIVE : Prediction Whether Candidates get plced?

It contains 215 columns and 13 variables

It contains different attribute of the candidates educational history and work experience. The detailed is given below:

- **gender** : Gender of the candidate
- **ssc_percentage** : Senior secondary exams percentage (10th Grade)
- **ssc_board** : Board of education for ssc exams
- **hsc_percentage** : Higher secondary exams percentage (12th Grade)
- **hsc_borad** : Board of education for hsc exams
- **hsc_subject** : Subject of study for hsc
- **degree_percentage** : Percentage of marks in undergrad degree
- **undergrad_degree** : Undergrad degree majors
- **work_experience** : Past work experience
- **emp_test_percentage** : Aptitude test percentage
- **specialization** : Postgrad degree majors - (MBA specialization)
- **mba_percent** : Percentage of marks in MBA degree
- **status (TARGET)** : Status of placement. Placed / Not Placed

Here ,the Sample of dataset.

##	gender	ssc_percentage	ssc_board	hsc_percentage	hsc_board	hsc_subject
## 1	M	67.00	Others	91.00	Others	Commerce
## 2	M	79.33	Central	78.33	Others	Science
## 3	M	65.00	Central	68.00	Central	Arts
## 4	M	56.00	Central	52.00	Central	Science
## 5	M	85.80	Central	73.60	Central	Commerce
## 6	M	55.00	Others	49.80	Others	Science
##	degree_percentage	undergrad_degree	work_experience	emp_test_percentage		
## 1	58.00	Sci&Tech	No			55.0
## 2	77.48	Sci&Tech	Yes			86.5

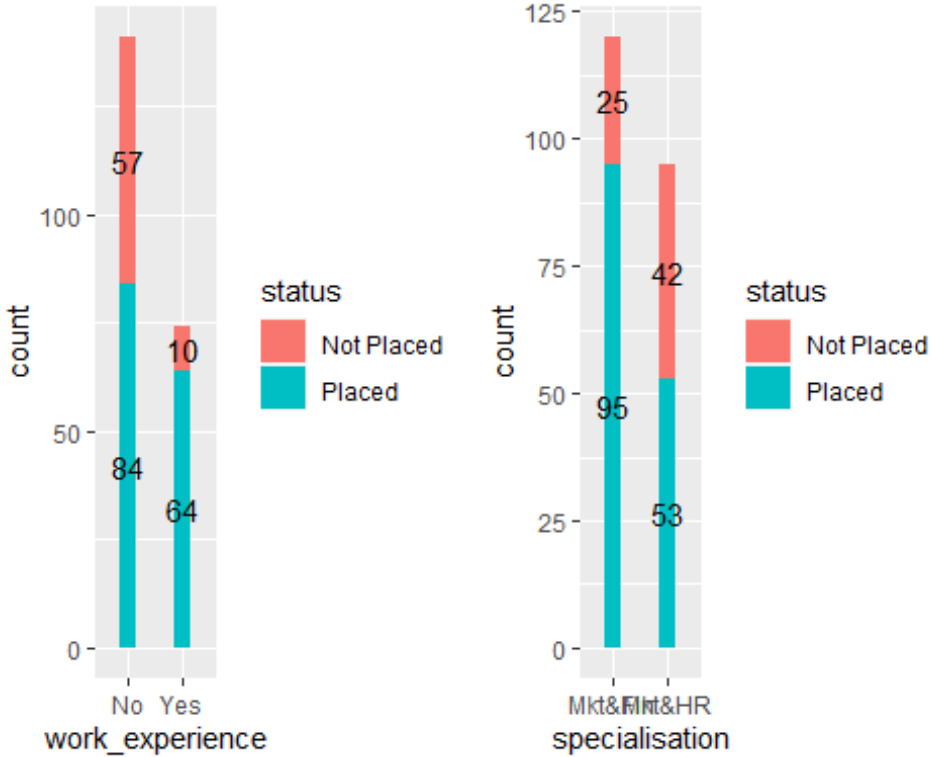
## 3	64.00	Comm&Mgmt	No	75.0
## 4	52.00	Sci&Tech	No	66.0
## 5	73.30	Comm&Mgmt	No	96.8
## 6	67.25	Sci&Tech	Yes	55.0
##	specialisation	mba_percent	status	
## 1	Mkt&HR	58.80	Placed	
## 2	Mkt&Fin	66.28	Placed	
## 3	Mkt&Fin	57.80	Placed	
## 4	Mkt&HR	59.43	Not Placed	
## 5	Mkt&Fin	55.50	Placed	
## 6	Mkt&Fin	51.58	Not Placed	

(b) How will you summarize the data?

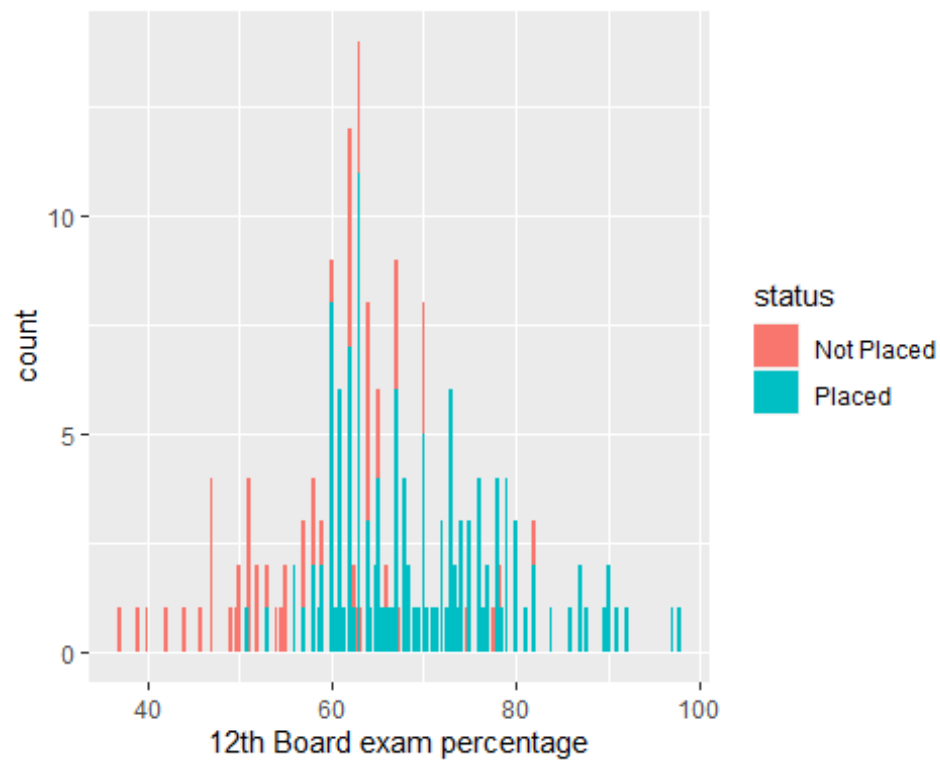
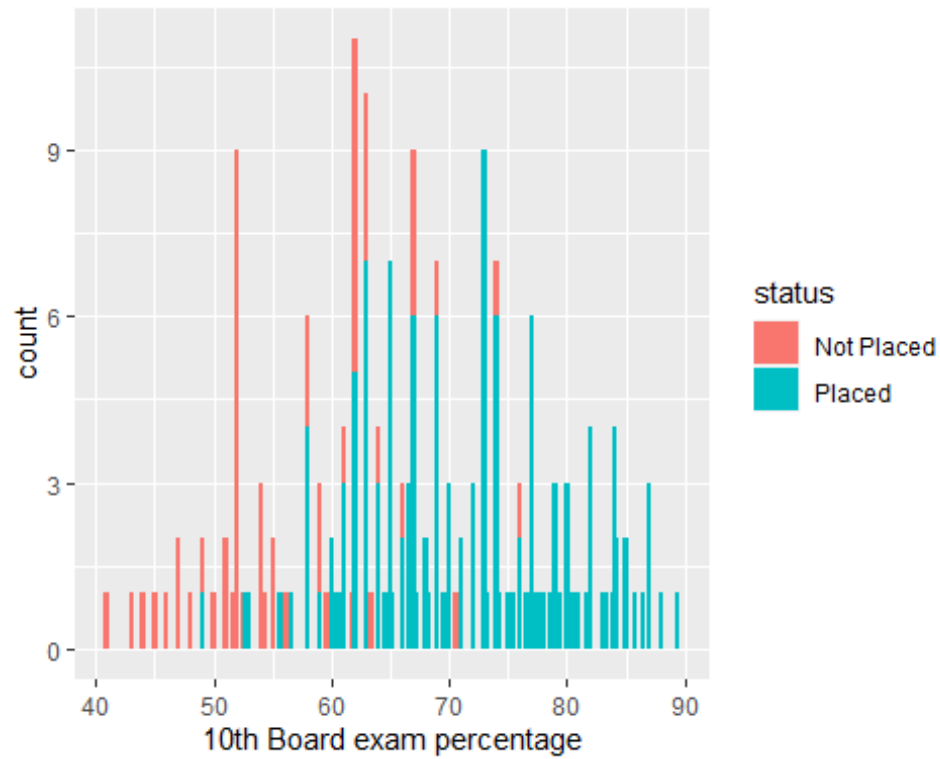
##	gender	ssc_percentage	ssc_board	hsc_percentage
##	Length:215	Min. :40.89	Length:215	Min. :37.00
##	Class :character	1st Qu.:60.60	Class :character	1st Qu.:60.90
##	Mode :character	Median :67.00	Mode :character	Median :65.00
##		Mean :67.30		Mean :66.33
##		3rd Qu.:75.70		3rd Qu.:73.00
##		Max. :89.40		Max. :97.70
##	hsc_board	hsc_subject	degree_percentage	undergrad_degree
##	Length:215	Length:215	Min. :50.00	Length:215
##	Class :character	Class :character	1st Qu.:61.00	Class :character
##	Mode :character	Mode :character	Median :66.00	Mode :character
##			Mean :66.37	
##			3rd Qu.:72.00	
##			Max. :91.00	
##	work_experience	emp_test_percentage	specialisation	mba_percent
##	Length:215	Min. :50.0	Length:215	Min. :51.21
##	Class :character	1st Qu.:60.0	Class :character	1st Qu.:57.95
##	Mode :character	Median :71.0	Mode :character	Median :62.00
##		Mean :72.1		Mean :62.28
##		3rd Qu.:83.5		3rd Qu.:66.25
##		Max. :98.0		Max. :77.89
##	status			
##	Length:215			
##	Class :character			
##	Mode :character			
##				
##				
##				

(c) Apply appropriate tools to visualize the data.

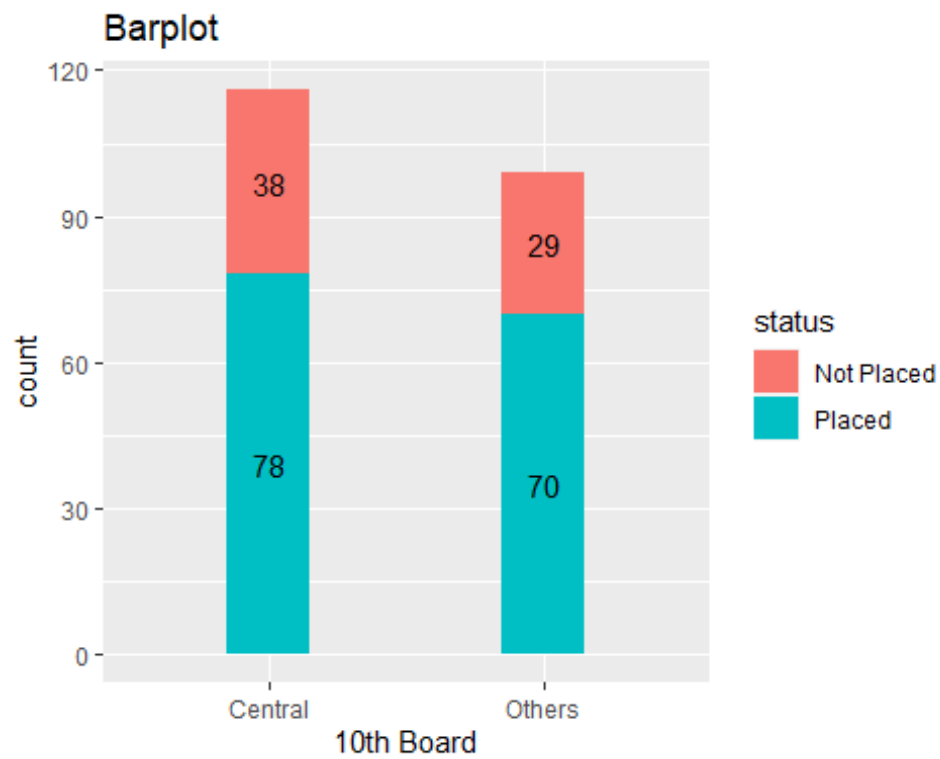
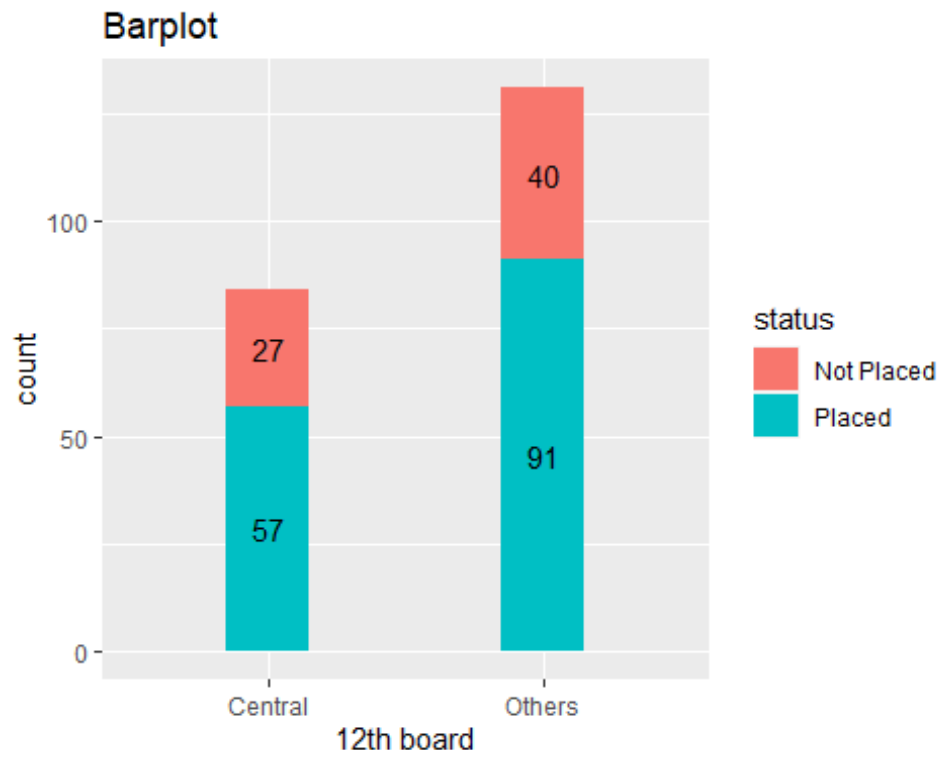
Barplot

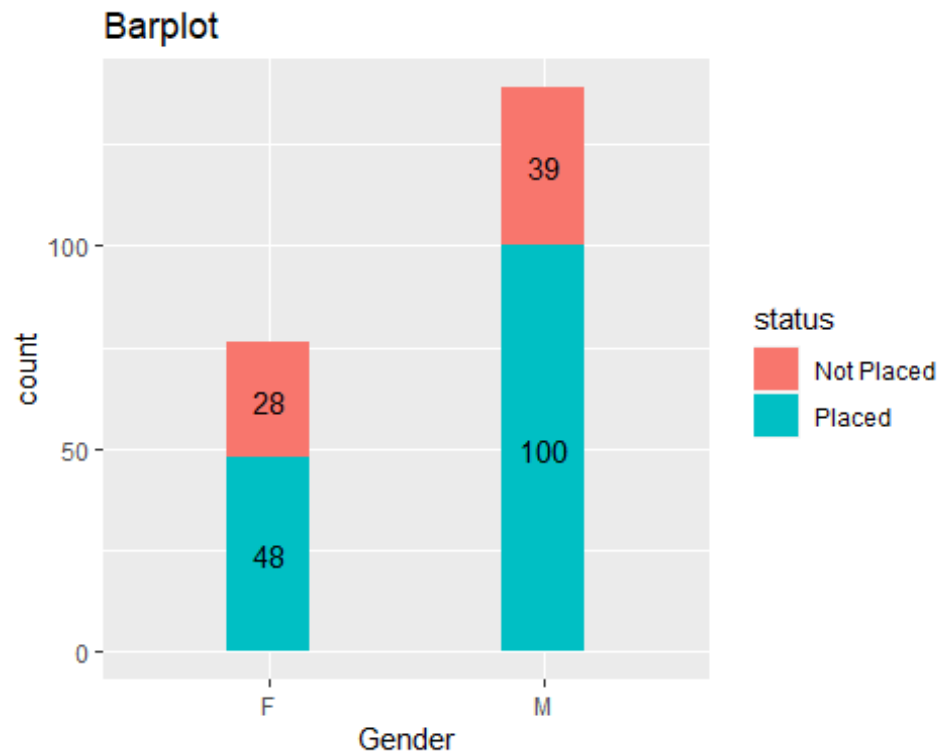


- We can see that from the plots that Very few students with work experience not getting placed.
- We can see that from graph Student having specialisation with marketing and finnnace got more placed than human resource



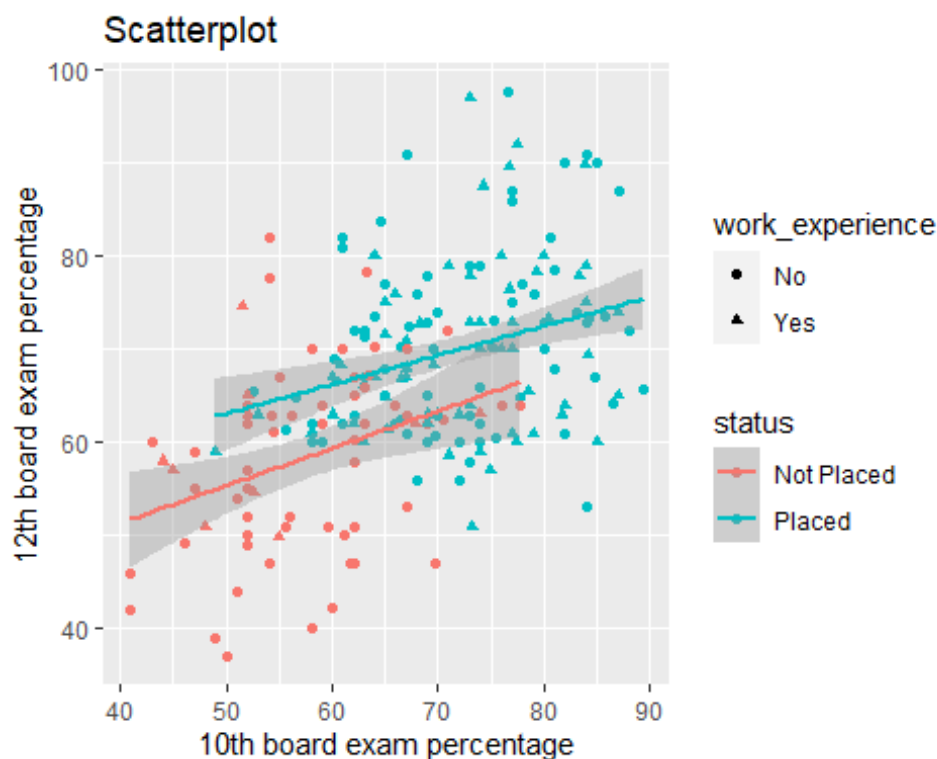
- Academic performance affects placement. We can Observe that Percentage must be at least 60 for a chance of being placed. Student having more than 80% in academic performance they got placed



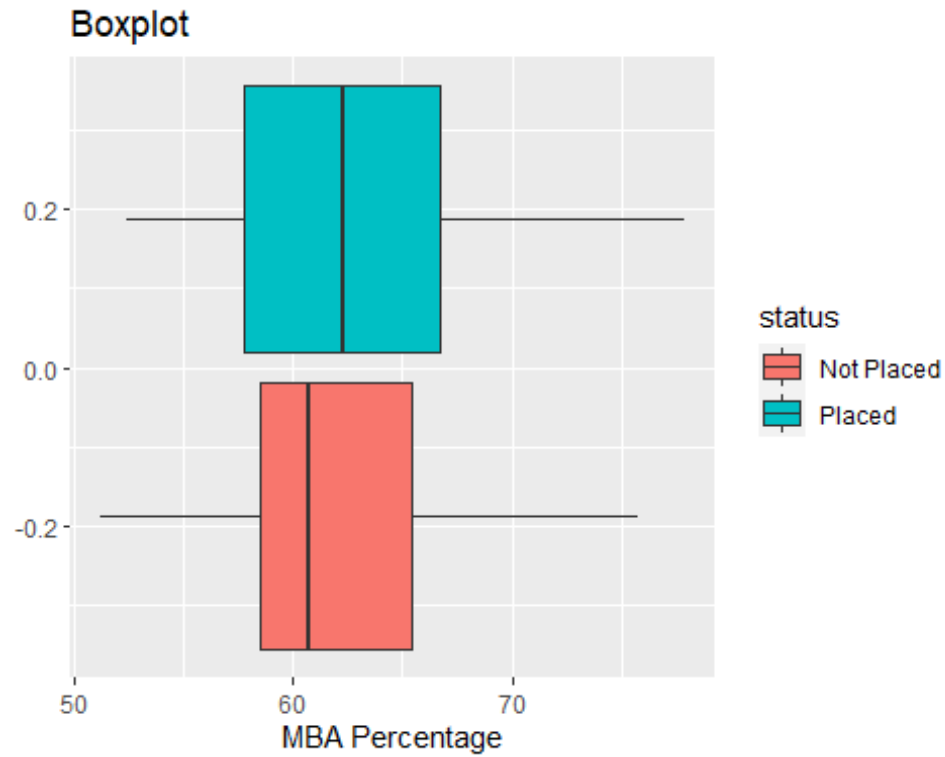


* Board and Gender doesnot affect the placement

```
## `geom_smooth()` using formula 'y ~ x'
```



Q. It seems that the percentage in 12th exam has a significant association with placement. Test, with appropriate assumptions, if the distribution of percentage in 12th grade differs significantly between placed people and not placed people.



Conclusion

- Having higher grades can be helpful while finding a job, but not crucial.
- Work Experience Effects Placement.
- Placements also depend on Specializations.
- Gender doesn't matter in Placements.
- MBA Percentage also affect the Placement.